

3 Stages of Backward Design

1. Identify desired results.

2. Determine acceptable evidence.

3. Plan learning experiences & instruction.

The UbD Template...

- ✓ embodies the three stages of backward design
- ✓ provides a common format for creating and sharing curricular designs

Standard(s):	
Understandings	Essential Questions
Assessment Evidence	
Learning Activities	

The UBD 1-page template

Standard(s):	
Understandings	Essential Questions
Assessment Evidence	
Learning Activities	

fosters alignment:

- 📄 content standards
- 📄 'big ideas'
- 📄 essential questions
- 📄 assessments
- 📄 learning activities

“Color Key” to differentiation in backward design

Should be Differentiated

May need some Differentiation

Should rarely be Differentiated

Differentiation in UbD - Stage 1

Established Goals (e.g., Content Standards)	
Understandings	Essential Questions
Knowledge	Skills

Differentiation in UbD - Stage 1

Established Goals (e.g., Content Standards)	
Understandings	Essential Questions
	<i>However:</i> Open-ended questions allow for diverse responses.
Knowledge	Skills

Sample Essential Questions:



- *What is a number?*
- *Can everything be measured?
... quantified?*
- *What are the limits of
mathematical modeling?*

Sample Essential Questions: ?

- *How do effective writers hook and hold their readers?*
- *What makes a book “great”?*
- *How do good readers figure out the author’s meaning when they don’t know all the words?*

Differentiation in UbD - Stage 1

Established Goals (e.g., Content Standards)	
Understandings	Essential Questions
Knowledge	Skills
Pre- and on-going assessments may reveal skill or knowledge gaps needing instructional interventions, and suggest needed enrichment experiences for the advanced learners.	

Differentiation in UbD - Stage 2

Needed Evidence	
Performance Tasks	Other Evidence
Key Criteria/ Scoring Rubric (s)	

Differentiation in UbD - Stage 2

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Differentiation in UbD - Stage 2

Needed Evidence
Performance Tasks
Open-ended, "authentic" performance tasks offer opportunities for valid differentiation, via variety in roles, audiences, scenario, products and performances.
Key Criteria/ Scoring Rubric (s)

Differentiation in UbD - Stage 2

Needed Evidence	
Performance Tasks	Other Evidence
Open-ended, “authentic” performance tasks offer opportunities for valid differentiation, via variety in roles, audiences, scenario, products and performances.	
Key Criteria/ Scoring Rubric (s)	
Scoring criteria should be roughly the same for all, even if our expectations appropriately vary, given the evidence needs implied by STAGE ONE.	

Differentiation in UbD - Stage 3

• *use diagnostic assessments to check for prior knowledge, interests, etc.*

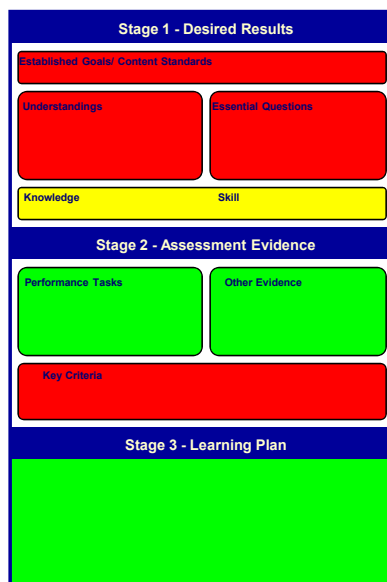
• *allow student choice - e.g., resources, process, products/performances*

• *sub-group for skills lessons*

• *provide varying degrees of support - e.g., graphic organizers, outlines*

• *student support systems - e.g., reading buddies, review partners, etc.*

Differentiation in UbD



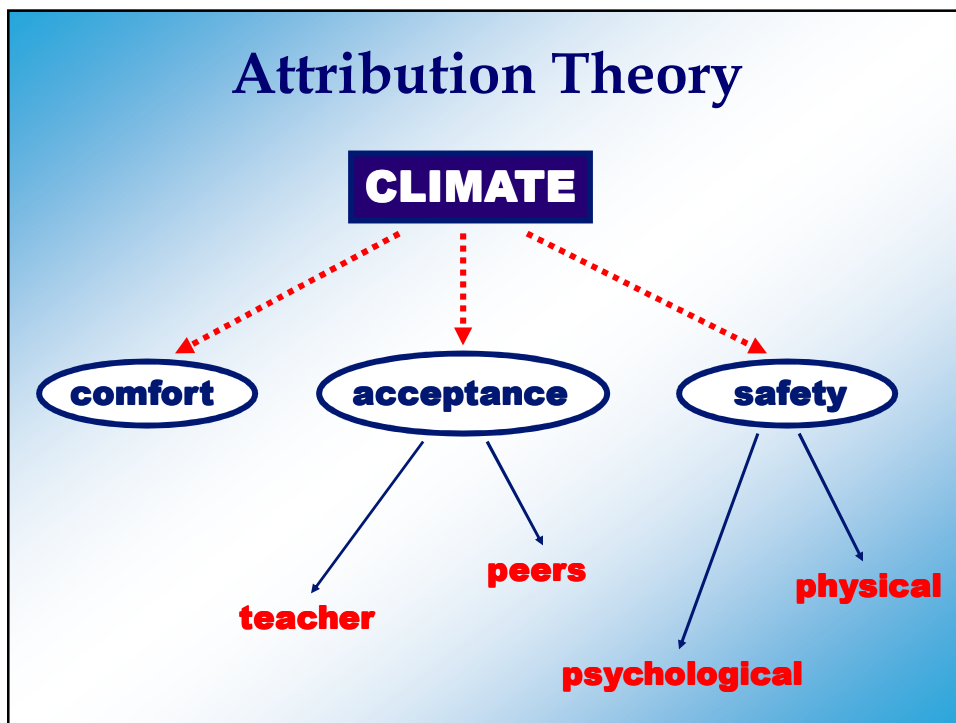
Synthesizing Activity:

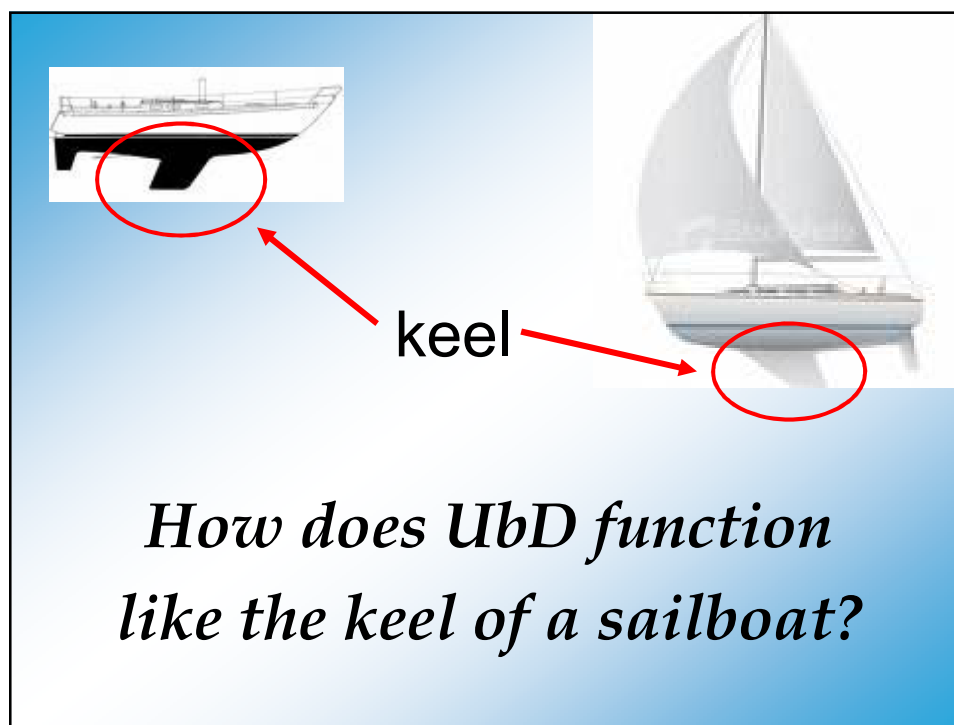
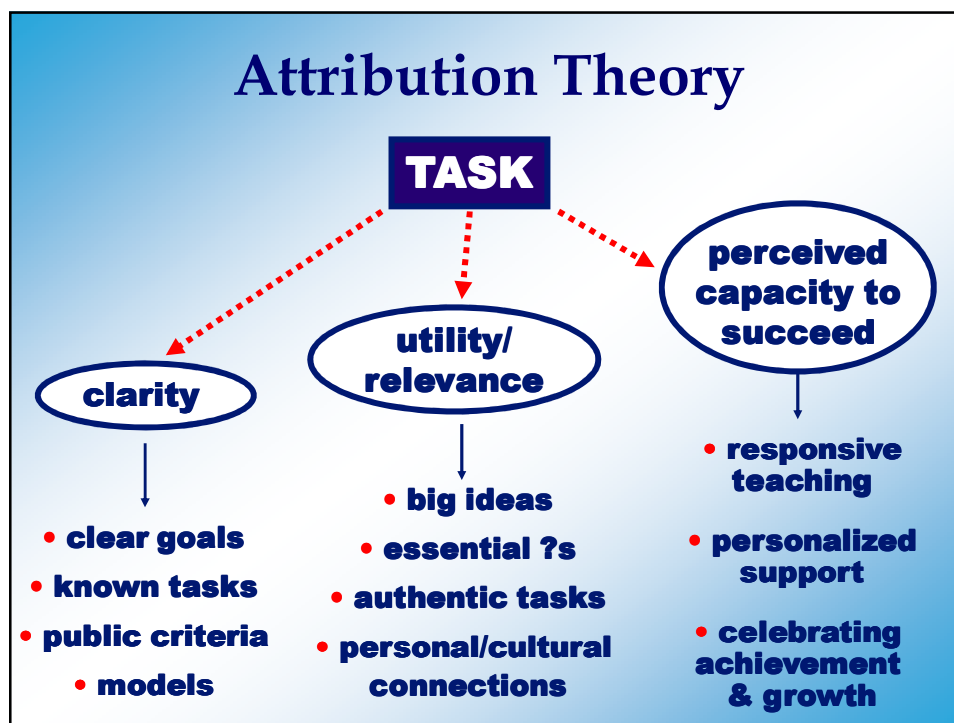
Summarize the key ideas of this session as represented by the color-Coded UbD "backward design" Template.

Connecting UbD & DI



Attribution Theory





*How does UbD
function like the keel
of a sailboat?*



- ✓ *It provides stability when sailing.*
- ✓ *It buffers the effects of strong winds and currents.*
- ✓ *It helps you stay on course.*

sails

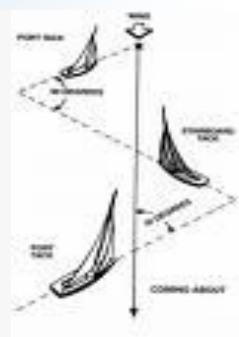


rudder



*How does Differentiated
Instruction function like the
rudder and sails?*

How does Differentiated Instruction function like the rudder and sails?



- ✓ *It allows us to be responsive to unpredictable conditions (i.e., kids and context).*
- ✓ *It guides needed adjustments as we make our way.*

“Unpack” Content Standards

Consider: What “big ideas” are

embedded within the standards?

content standards
big ideas

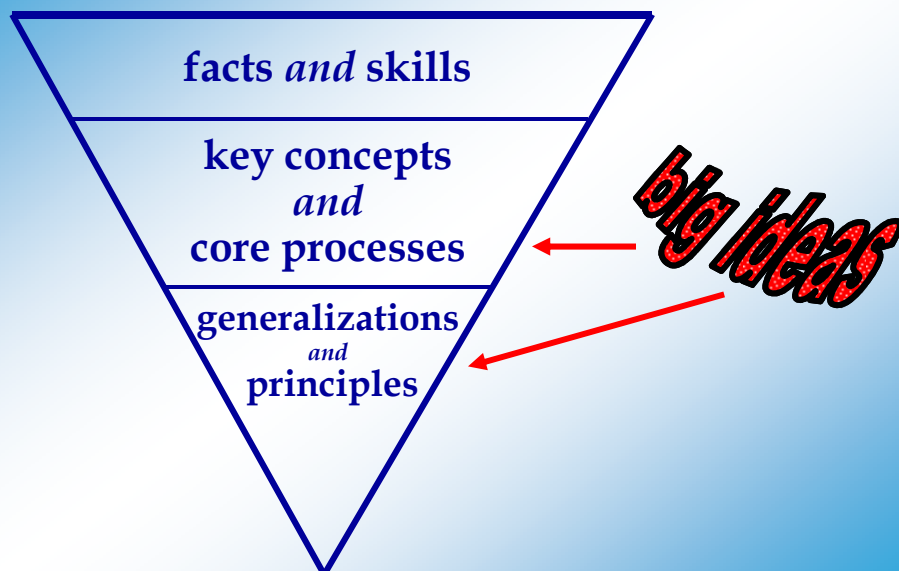
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Structure of Knowledge



Factual Knowledge



includes...

- **vocabulary/ terminology**
- **definitions**
- **key factual information**
- **critical details**
- **important events and people**
- **sequence/timeline**

Skills



include...

- **basic skills - e.g., decoding, drawing**
- **communication skills - e.g., listening, speaking, writing**
- **thinking skills - e.g., comparing**
- **study skills - e.g., note taking**
- **interpersonal, group skills**

Concepts - transferable 'big ideas'



examples...

- adaptation
- change
- energy
- exploration
- freedom
- interaction
- justice
- migration
- patterns
- power
- symbol
- systems

Principles and Generalizations



examples...

- Democratic governments must balance rights of individuals with the common good.
- Correlation does not insure causality.
- Creating space away from the ball increases scoring opportunities (e.g., in soccer, football, basketball).

Epistemological Understandings



examples...

- Conclusions from scientific investigations must be verified through replication. Scientific inquiry deliberately isolates and controls key variables and their interaction.
- History involves interpretation and historians can disagree. One's interpretation of the past may be influenced by one's experiences, culture, philosophy, and political beliefs.

research on

Learning and Cognition



“Research on expertise suggest that a superficial coverage of many topics in the domain may be a poor way to help students develop the competencies that will prepare them for future learning and work.”

– Bransford, et. al., *How People Learn*, p 30

research on

Learning and Cognition



“We turn now to the questions of how experts’ knowledge is organized...Their knowledge is not simply a list of facts and formulas that are relevant to the domain; instead, their knowledge is organized around core concepts or ‘big ideas’ that guide their thinking about the domain.”

– Bransford, et. al., *How People Learn*, p 24

research on

Learning and Cognition



“Learning with understanding is more likely to promote transfer than simply memorizing information from a text or a lecture.”

– Bransford, et. al., *How People Learn*, p 224

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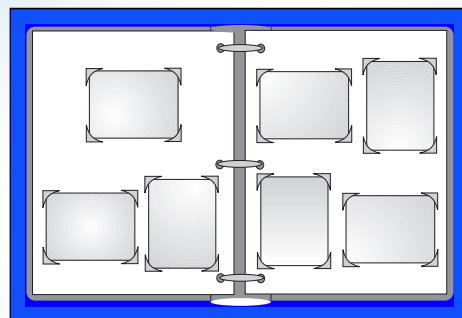
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Think “Photo Album” versus “Snapshot”

*Sound assessment requires multiple
sources of evidence, collected over time.*



Gather evidence from a Range of Assessments



-  authentic tasks and projects
-  academic exam questions, prompts, and problems
-  quizzes and test items
-  informal checks for understanding
-  student self-assessments

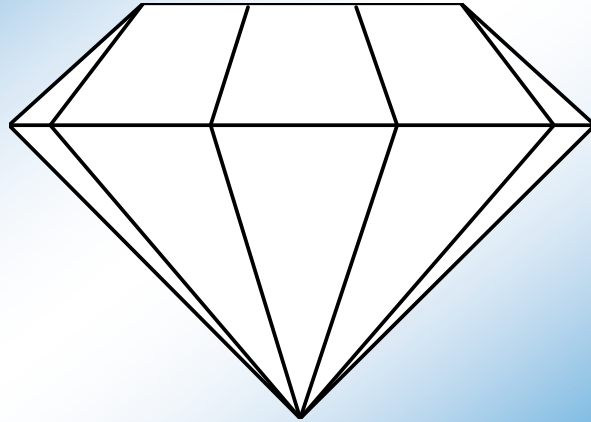
Match the Assessment Evidence with the Learning Goals



=



What is Understanding?



Focus on evidence.



✉ *Consider a judicial analogy:*

Students should be presumed innocent of understanding until proven guilty by a preponderance of evidence.

Evidence of Understanding...

requires the student to:



Apply

*to novel situation
(‘authentic’ context)*

Explain

*support, justify
theorize, defend*

example:

Day Care Center



You have been hired by a day care agency to fence in an area to be used for a play area. You have been provided with 60 feet of fencing (in 4' sections) and a 4' gate. How can you put up the fence so the children will have the maximum amount of space in which to play?

Submit your plan for the playground area. Include a diagram, your calculations, and a summary of why this is the best design.

example:

Teach a Lesson



You have been asked to help a third grader understand the economic concept of “supply and demand”. Design a plan for a 5 minute lesson. You may wish to use examples (e.g., Beanie Babies or Pokemon cards), visuals, or manipulatives to help them understand.

example:

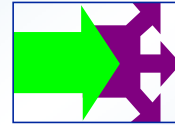
Mail-Order Friend



Imagine that you could order a friend from a mail-order friends catalog. Before ordering, think about the qualities that you value in a true friend. Then, make sure that you speak clearly so that the salesperson will know exactly what type of person to send you.

example:

Making the Grade



Your math teacher will allow you to select the measure of central tendency – *mean, median* or *mode* – by which your quarterly grade will be calculated.

Review your grades for quizzes, tests, and homework to decide which measure of central tendency will be best for your situation. Write a note to your teacher explaining *why* you selected that method.

Designing Task Scenarios



- G** ♦ What is the **goal** in the scenario?
- R** ♦ What is your **role**?
- R** ♦ Who is the **audience**?
- A** ♦ What is your **situation** (context)?
- S** ♦ What **products/performances** will you prepare?
- P** ♦ By what **standards** (criteria) will your
- S** work be judged?

Differentiation in UbD - Stage 2

Performance Task - GRASPS

-  *Goal*
-  *Role*
-  *Audience*
-  *Scenario*
-  *Product/Performance*
-  *Standards (criteria)*